Our Reference: GP-302837-OST-ALS PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant:	Walter A. Dorfstatter
Serial Number:	10/715,633
Filing Date:	November 18, 2003
Confirmation No.:	4329
Examiner/Group Art Unit:	Robert A. Sorey/3626
Title:	METHOD AND SYSTEM OF ESTIMATING VEHICLE DAMAGE

APPEAL BRIEF

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Please enter the following Appeal Brief in the appeal filed November 20, 2009.

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I. REAL PARTY IN INTEREST

The real parties in interest is Assignee 1) General Motors LLC, by assignment from Motors Liquidation Company (formerly known as General Motors Corporation), and 2) OnStar LLC, a wholly owned subsidiary of General Motors LLC. General Motors LLC is a corporation having an office and a place of business at 300 Renaissance Center, Detroit, Michigan, 48265-3000. The Appellant also notes that security interests have been recorded.

II. RELATED APPEALS AND INTERFERENCES

Appellant and the undersigned attorney are not aware of any appeals or any interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-7 are the claims on appeal. *See,* Appendix.

Claims 1-7 are rejected.

IV. STATUS OF AMENDMENTS

In response to the Final Office Action of August 20, 2009, no amendment pursuant to 37 C.F.R. § 1.116 was filed.

V. SUMMARY OF CLAIMED SUBJECT MATTER

In this summary of claimed subject matter, all citations are to the specification of United States Patent Application 10/715,633. Further, all citations are illustrative, and support for the cited element may be found elsewhere in the specification.

Independent claim 1:

Independent claim 1 is directed to a method for estimating vehicle damage. With reference to Figs. 1 and 2, the method includes sensing a vehicle incident via an on-board module 40 (see page 2, line 26 through page 3, line 2); automatically sending vehicle incident data, via a transceiver 42 operatively associated with the on-board module, to a service center 30 (see page 3, line 13-24); via an estimator 31 at the service center 30, using the incident data to automatically estimate the vehicle damage (see page 3, line 25 through page 4, line 13); and utilizing the estimated vehicle damage in a vehicle insurance decision process by an insurance service management system 37 (see page 4, lines 25-30).

Independent claim 2:

Independent claim 2 is also directed to a method for estimating vehicle damage. With reference to Figs. 1-3, the method includes sensing a vehicle incident via an module 40 on-board a vehicle (see page 2, line 26 through page 3, line 2); obtaining, via the on-board module 40, an incident delta velocity from the vehicle incident (see page 3, lines 9-15); sending the incident delta velocity from the on-board module 40 to a service center 30 (see page 3, lines 16-24); via an estimator 31 at the service center 30, using the incident delta velocity with vehicle identification information to automatically estimate a vehicle damage value (see page 4, lines 3-13); receiving, at an insurance service management system 37, a claim damage estimate from the service center 30 (see page 5, lines 3-6); comparing, via a processor 35 associated with the insurance management system 37, the automatically estimated vehicle damage value to the claim damage estimate (see page 5, lines 13-16); and in response to the comparison, making an insurance claim-processing related decision (see page 4, lines 27-30).

Independent claim 5:

Independent claim 5 is directed to a system for estimating vehicle damage. With reference to Fig. 1, the system includes a module 40 sensing an occurrence of a vehicle incident and developing incident data responsive thereto (see page 2, line 26 through page 3, line2); an in-vehicle transceiver 42 for automatically sending vehicle incident data to a service center 30 (see page 3, lines 13-15); an estimator 31 within the service center 30 using the incident data to automatically estimate a vehicle damage value (see page 4, lines 3-13); and a decision processor 35 providing a business recommendation responsive to the estimated vehicle damage value (see page 4, lines 25-30).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Appellant requests review of the following grounds of rejection on appeal:

1) Whether claims 1-4 include nonstatutory subject matter, thereby failing to comply with the requirements of 35 U.S.C. § 101.

2) Whether claims 1, 2, and 5 fail to comply with the enablement requirement under 35 U.S.C. § 112, first paragraph.

3) Whether claims 1, 2, and 5 fail to point out and distinctly claim the subject matter that Appellant regards as his invention under 35 U.S.C. § 112, second paragraph.

4) Whether claim 1 is unpatentable under 35 U.S.C. § 103(a) over Mackey (U.S. Patent No. 6, 141,611, referred to herein as "Mackey") in view of Lockwood (U.S. Patent No. 6,694,234, referred to herein as "Lockwood").

5) Whether claims 2-4 are unpatentable under 35 U.S.C. § 103(a) over Mackey in view of Lockwood, and further in view of Madill (U.S. Patent Publication No. 2005/0108063, referred to herein as "Madill") and Applicant Admitted Prior Art.

6) Whether claim 5 is unpatentable under 35 U.S.C. § 103(a) over Mackey in view of Lockwood.

7) Whether claims 6 and 7 are unpatentable under 35 U.S.C. § 103(a) over Mackey in view of Lockwood, and further in view of Madill.

VII. ARGUMENTS

The arguments presented hereinbelow address the rejections stated in the Final Office Action dated August 20, 2009. It is submitted, however, that the absence of a reply to a specific rejection, issue or comment in the Final Office Action does not signify agreement with or concession of that rejection, issue or comment. Finally, nothing in the following arguments of this appeal brief should be construed as an intent to concede any issue with regard to any claim, except as specifically stated below.

A. Rejection of claims 1-4 under 35 U.S.C. § 101

Claims 1-4 are rejected in the Final Office Action dated August 20, 2009 for allegedly including nonstatutory subject matter in violation of 35 U.S.C. § 101. More specifically, the Examiner asserts that claims 1-4 i) are not tied to another statutory class, ii) can be performed without the use of a particular apparatus, and iii) fail to transform the underlying subject matter to a different state or thing (citing *In re Bilski*, 88 U.S.P.Q.2d 1385 (Fed. Cir. 2008)).

Independent claims 1 and 2 are both directed to a method for estimating vehicle damage. Claims 1 and 2 were amended in the response dated May 4, 2009 to include structural limitations corresponding to individual steps of each of the claims. Claims 1 and 2 are reproduced hereinbelow for the Board's convenience, where such structural limitations are identified in bold/italics.

> 1. A method for estimating vehicle damage, comprising the steps of:
>
> sensing a vehicle incident via ***an on-board module***;
>
> automatically sending vehicle incident data, via ***a transceiver*** operatively associated with the on-board module, to a service center;
>
> via ***an estimator*** at the service center, using the incident data to automatically estimate the vehicle damage; and
>
> utilizing the estimated vehicle damage in a vehicle insurance decision process by ***an insurance service management system***. (Emphasis added.)

> 2. A method for estimating vehicle damage, comprising the steps of:
>
> sensing a vehicle incident via ***a module*** on-board a vehicle;
>
> obtaining, via ***the on-board module***, an incident delta velocity of the vehicle from the vehicle incident;
>
> sending the incident delta velocity ***from the on-board module to a service center***;
>
> via ***an estimator*** at the service center, using the incident delta velocity with vehicle identification information to automatically estimate a vehicle damage value;
>
> receiving, at ***an insurance service management system***, a claim damage estimate from the service center;
>
> comparing, via ***a processor*** associated with the insurance service management system, the automatically estimated vehicle damage value to the claim damage estimate; and
>
> in response to the comparison, making an insurance claim-processing related decision. (Emphasis added.)

In the Final Office Action, however, the Examiner asserts that *none* of the structural limitations recited in claims 1 and 2 above actually place such claims under the realm of statutory subject matter under 35 U.S.C. § 101. Appellant respectfully disagrees with the Examiner for the following reasons.

The Examiner asserts that the term "module," as recited in claims 1 and 2, refers to software directed toward recording sensor data, and that software is not considered to be a particular machine. Appellant respectfully disagrees with the Examiner's interpretation of the term "module".

At the outset, it is generally known that patent terms are given their plain meaning unless such meaning is inconsistent with the specification as filed (see, e.g., MPEP § 2111.01). Since Appellant's specification does not explicitly provide a definition of the term "module", it is submitted that its plain meaning should be applied when interpreting the claims for purposes of determining patentability. Referring to any suitable dictionary or other similar source, the plain meaning of the term "module" is simply a component which is self-contained to perform a particular task. For instance, a space shuttle may include several modules - a shuttle docking module, a lunar excursion module, a command module, etc. In most cases, each of the space

modules includes some type of computing technology that is configured to run software programs/routines for performing one or more desired functions of the space shuttle.

Appellant submits that the space modules are very similar to the "on-board module" recited in claims 1 and 2. Referring to Appellant's specification as filed, the on-board module (identified by reference identifier 40 in Fig. 1) is capable of *sensing* a vehicle incident and *recording* data from one or more sensors during the incident (see page 2, line 26 through page 3, line 4). Appellant's specification further discloses that another module (identified by reference identifier 42 in Fig. 1) *receives* the recorded data from the module 40 (see page 3, lines 16-17). Although certain tasks performed by the module 40 may be performed using software programs (e.g., recording data), it is submitted that the software programs do not actually send the data to other components or modules (such as the module 42). Similar to the examples of the space modules provided above, it is submitted that the on-board module 40 clearly includes *more* than just software.

In the Final Office Action of August 20, 2009, the Examiner further asserts that the term "transceiver" is directed toward nominal data gathering, and thus is not considered to be patentable subject matter. The Examiner cites *In re Comiskey*, 499 F.3d 1365, 1380 (Fed. Cir. 2007) to support his assertion. However, Appellant points out that the Federal Circuit also stated that claims combining the use of machines with a mental process do include patentable subject matter (*In re Comiskey* at 1380). Appellant submits that the transceiver (identified by reference identifier 42 in Fig. 1, and which term is used interchangeably with the term "module" in Appellant's specification) receives the recorded data, and automatically transmits the recorded data or the calculated delta velocity to the service center. (See, e.g., page 3, lines 13-19 of Appellant's specification as filed.) Thus, the transceiver is not just means for gathering data, but is combined with steps of the mental process (i.e., the method of estimating vehicle damage). It is submitted that such is considered to be patentable subject matter.

Furthermore, the Examiner asserts that the term "estimator," as recited in claims 1 and 2, is a process, and may be considered to be a person working at a computer. Appellant respectfully disagrees with the Examiner's overly broad interpretation of the term. The Board's attention is directed to page 4, lines 3-6 of Appellant's specification as filed, which states that the

estimator represents "a ***computerized*** process that receives the data from the module 40, either in the form of recorded data or computed delta velocity, and utilizes this data along with the vehicle type information to determined an estimated damage value" (emphasis added). Appellant submits that a "computerized process" is the same as a computer or a processor (i.e., the apparatus) that is used to determine an estimated damage value. Appellant further submits that since the estimator is combined with the mental process of estimating vehicle damage, in view of *In re Comiskey*, such is also considered to be patentable subject matter.

Additionally, in the Final Office action of August 20, 2009, the Examiner asserts that "an insurance service management system" is not a particular machine. Appellant again respectfully disagrees with the Examiner, and submits that the insurance service management system encompasses a processor (identified by reference identifier 35 in Fig. 1) for making insurance-related decisions/actions (see page 4, lines 25-30 of Appellant's specification as filed). It is submitted that the processor 35 is clearly a machine and, when combined with the mental process of estimating damage, is considered to be patentable subject matter.

For all of the reasons stated above, it is submitted that each of the method steps recited in claims 1-4 is in fact tied to another statutory class, and thus claims 1-4 do contain patentable subject matter in compliance with 35 U.S.C. § 101. Appellant therefore submits that the instant rejection to claims 1-4 is erroneously based, and withdrawal of the rejection is respectfully requested.

B. <u>Rejection of claims 1, 2, and 5 under 35 U.S.C. § 112, first paragraph</u>

In the Final Office Action dated August 20, 2009, the Examiner rejects claims 1, 2, and 5 under 35 U.S.C. § 112, first paragraph, for failing to comply with the enablement requirement. More specifically, the Examiner asserts that claims 1, 2, and 5 contain subject matter that was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention.

To establish a lack of enablement, the Examiner applied the eight "Wand factors" to determine if there is, in fact, a lack of enablement. Such factors include i) the breadth of the claims, ii) the nature of the invention, iii) the state of the prior art, iv) the level of one of ordinary

skill, v) the level of predictability in the art, vi) the amount of direction provided by the inventor, vii) the existence of working examples, and viii) the quantity of experimentation needed to make or use the invention based on the content of the disclosure. The MPEP § 2164.01(a) provides that a determination of a lack of enablement may be reached by ***weighing*** all of the Wand factors. The Wand factors, the Examiner's arguments (presented in at least the Final Office Action dated August 20, 2009), and Appellant's response to the Examiner's arguments are set forth hereinbelow:

i) Breadth of Claims

In the Final Office Action dated August 20, 2009, the Examiner asserts that the claims are overly broad, and that claim 2 discloses *only* delta velocity is used in estimating vehicle damage. Appellant respectfully disagrees with the Examiner's assertion.

The breadth of a claim may be established by determining "whether the scope of enablement provided to one skilled in the art by ***the disclosure is commensurate with the scope of protection sought by the claims***" (emphasis added). (MPEP § 2164.08 citing *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003).) Thus, the breadth of the claims may be established by comparing Appellant's disclosure with the claims, and determining that the scope of the claims is about the same as the disclosure. If such is true, then the claim is *not* considered to be overly broad.

Referring now to Appellant's application as filed, page 4, lines 3-6 states that "[t]he service center 30 contains an estimator 31, which represents a computerized process, that receives the data from the module 40, either in the form of recorded data or computed delta velocity, and utilizes this data along with the vehicle type information to determine an estimated damage value." Likewise, claim 2 recites, "via an estimator at the service center, using the incident delta velocity with vehicle identification information to automatically estimate a vehicle damage value." Appellant submits that such claim recitation is in fact commensurate with Appellant's application as filed, and thus claim 2 should ***not*** be considered overly broad.

Furthermore, when determining whether a claim lacks enablement, the claim must be analyzed ***as a whole***; and not in individual parts (see MPEP § 2164.08). Thus, the method for

estimating vehicle damage as defined in claim 2 includes *much more* than just using delta velocity. For instance, claim 2 includes i) sensing a vehicle incident, ii) obtaining an incident delta velocity from the incident, iii) sending the delta velocity to a service center, iv) estimating a vehicle damage value, v) receiving a claim damage estimate at an insurance service management system, vi) comparing the vehicle damage value to the claim damage estimate, and vii) making an insurance claim-processing related decision.

Yet further, the vehicle damage value is estimated, by the estimator, using the delta velocity ***and*** vehicle identification information (see claim 2). It is therefore submitted that the Examiner is incorrect in stating that the vehicle damage is estimated using *only* delta velocity.

ii) Nature of the Invention

In the Final Office Action dated August 20, 2009, the Examiner argues that estimating vehicle damage is technically complex, and submits that the prior art (such as Kidd, et al. (U.S. Patent Publication No. 2002/0013685), referred to herein as "Kidd") has established that calculating delta velocity from a plethora of vehicle damage information is complex, involved, and can be done in many different ways. Although the Examiner recognizes that Appellant's invention is drawn to a method for estimating vehicle damage; and not to calculating delta velocity, the Examiner asserts that such estimation would be complex given the fact that the prior art shows that determining delta velocity is complex.

Appellant respectfully disagrees with the Examiner's argument stated above. The prior art relied up by the Examiner (i.e., Kidd) discloses a computer system that provides a graphical user interface to allow a non-technical person to generate vehicular damage information such as, e.g., component repair estimates, component replacement information, or the like. The computer system uses data that is input via a user to a graphical system to generate an estimated delta velocity, and then compares the generated delta velocity with information from vehicle crash tests to determine a vehicle damage rating. The rating may be used to determine the severity of the vehicle damage (see column 1, lines 31-52 and column 4, lines 6-16 of Kidd).

The delta velocity estimation in Kidd is based, at least in part, on subject vehicle damage ratings (see, e.g., paragraph [0092] of Kidd). Given the fact that damage ratings are generally

not factored into the basic equation for estimating delta velocity ($v_f = v_o + at$, where v_f is the final velocity, v_o is the initial velocity, a is the acceleration, and t is the time (see Exhibits 1 and 2)), it is submitted that such additional variable would inevitably complicate the basic delta velocity calculation. Accordingly, Kidd's disclosure of a more complex delta velocity calculation is expected.

Additionally, as admitted by the Examiner, Kidd discloses calculating delta velocity. As also admitted by the Examiner, Appellant's claims 1, 2, and 5 are *not* directed to calculating delta velocity; but rather to estimating vehicle damage. More specifically, the method disclosed in Kidd includes calculating delta velocity using vehicle damage as an input. The method defined in Appellant's claims, however, recites the opposite; namely determining the vehicle damage using delta velocity as one input. In view thereof, it is submitted that a skilled artisan would not look to the teachings of the Kidd reference for guidance concerning a method for estimating vehicle damage.

Furthermore, the Examiner states that the delta velocity equation provided above (i.e., $v_f = v_o + at$) is not found in Appellant's specification, nor in Appellant's claims. However, Appellant reminds the Examiner (and the Board) that not everything necessary to practice the invention needs to be disclosed in order to satisfy the enablement requirement. In fact, sometimes what is well-known is best omitted. (See MPEP § 2164.08 citing *In re Buchner*, 929 F.2d 660, 661 (Fed. Cir. 1991).) In light of the fact that Appellant's specification as filed states that delta velocity may be accomplished using techniques known by one skilled in the art (see page 1, lines 7-9 and page 3, lines 9-12), it is submitted that the basic equation for delta velocity (i.e., $v_f = v_o + at$) may reasonably be applied. Additionally, the background section of Appellant's specification states that delta velocity measurements (e.g., determined via the basic equation provided above) have been used, e.g., by supplemental inflatable restraint (SIR) systems for purposes of alerting response persons to potential injury. Appellant submits that such systems have been used for several years. Accordingly, it is submitted that details of the basic calculation for delta velocity do not have to be disclosed in the specification, nor recited in the claims to satisfy the enablement requirement.

iii) State of the Prior Art

In the Final Office Action dated August 20, 2009, the Examiner cites many references, and asserts that these references reveal that estimating vehicle damage from delta velocity and vehicle identification was not well known. Appellant disagrees with the Examiner, and submits that Appellant's application discloses that the estimated damage value may be determined using a lookup table or database (see page 4, lines 7-10). Appellant further submits that such lookup tables or databases have been used for years and may be applied to a number of different applications (e.g., for determining geographic coordinates of a desired area, for determines sales tax in a particular state for a purchased item or good, etc.).

The Examiner argues, in the Final Office Action dated August 20, 2009, that Appellant does not disclose *how* the lookup table is constructed (i.e., where the estimations come from, how the estimations are put into the table, how the table is formatted, how the vehicle damage is estimated using delta velocity, etc.). In response thereto, Appellant submits that the Examiner is making this simple lookup table far more complicated than it needs to be. Briefly, the lookup table is a correlation between the delta velocity and vehicle identification information (such as the make and model of the vehicle) with a number representing damage to the vehicle (referred to as a damage value). For merely illustrative purposes, the number or damage value may be similar to the rating disclosed in the Kidd reference discussed above. As an example, if a vehicle such as a Suburban hit a wall going 5 mph, the lookup table may be used to obtain a damage value of, for example, 1. Such damage value would indicate that a small amount of vehicle damage would be evident. If, on the other hand, a vehicle such as a Cavalier hit a wall going 50 mph, the lookup table may reveal a damage value of 10, indicating that a lot of vehicle damage would be evident. As stated in Appellant's specification as filed, such lookup tables or databases may be obtained from the insurance industry or can be constructed from impact tests, etc. (see page 4, lines 14-17).

Furthermore, Appellant again apprises the Board of the fact that *not* everything necessary to practice the invention needs to be disclosed in order to satisfy the enablement requirement (see MPEP § 2164.08). Such is true, at least in part, for lookup tables which have been used for many years, even by those who are considered to have less than ordinary skill in the art. It is

therefore submitted that the details for how the lookup table is constructed need not be explicitly recited in the claims in order to satisfy the enablement requirement.

iv) Level of Ordinary Skill

In the Final Office Action dated August 20, 2009, the Examiner argues that one of ordinary skill in the art must be mathematically skilled and, even if mathematically skilled, would still not know how to estimate vehicle damage from delta velocity and vehicle identification information. Appellant respectfully disagrees with the Examiner, and submits that basic mathematical skills (e.g., an elementary school student) would be required to calculate delta velocity using the equation provided above. Appellant further submits that mathematical skills are generally not required to use a lookup table, and thus are not required to estimate a vehicle damage value.

The Examiner argues, however, that algebraic skills are rarely practiced by elementary school students; but are instead first addressed in middle school or even in high school. Appellant submits that such argument is really beside the point. However, for purposes of addressing the Examiner's concern, Appellant submits that there are some school systems that start basic algebra as early as fourth or fifth grade, whereas other school systems start basic algebra in middle school. The placement of the student in the proper math level is based, at least in part, on the mathematical skill level of the student, as well as what the school system has to offer for accelerated or non-accelerated programs.

Despite the foregoing statement, the point that Appellant is trying to make is that a delta velocity estimation may be accomplished using basic algebra that one skilled in the art would generally know and be able to apply without a specific teaching of how to do so from Appellant's specification.

v) Level of Predictability in the Art

The Examiner argues that Appellant's invention as defined in claim 2 attempts to automate a manual process. The Examiner reasons that estimating vehicle damage is a subjective manual process typically done by adjustors in the insurance business or specialists in

the automotive business and, thus, the results would be unpredictable as they would require imprecise human judgments.

Appellant submits, however, that the method defined in claim 2 (as well as defined in the other pending claims of the instant application) actually replaces a known manual method with a new, apparatus-based method. An example of such known manual method would include the method disclosed by the Kidd reference, where a person would manually input the damage (after looking at the vehicle first-handedly) into a computer system. In sharp contrast, the method defined by Appellant's pending claims involves automatically sending delta velocity from the vehicle, and then estimating the damage. The estimated damage is ultimately used in an insurance decision.

Further, Appellant's method defined in claim 2 uses a machine estimation process to determine the vehicle damage value. As one skilled in the art would know, lookup tables are often used in computer programs to determine desired outputs. In claim 2, the vehicle damage value may be automatically estimated (via, e.g., a computer operating a computer program) by looking up the damage value in the lookup table based on the delta velocity and the vehicle identification information. As such, substantially no subjectivity is used to determine the vehicle damage value according to Appellant's claimed method.

vi) Amount of Direction Provided by the Inventor

The Examiner argues that Appellant provides no direction (e.g., calculations, variables, inputs, and equations involved) in the specification for how the vehicle damage value is estimated. Appellant respectfully disagrees with the Examiner. Appellant's specification as filed provides a relatively straightforward algorithm that a skilled artisan can readily apply. To reiterate from above, the vehicle damage value is obtained by looking up the delta velocity (e.g., calculated by the delta velocity equation provided above) and the vehicle identification (e.g., make and model of the vehicle) in the lookup table (see page 4, lines 3-13 of Appellant's specification as filed). While other variations of the method may be applied that use far more complex algorithms, it is submitted that Appellant's method, in its basic form, need not be as complex. Further, the basic algorithm, in addition to the fact that the results from using such

algorithm, may be available to the insurance industry and/or to estimate vehicle repairs (see page 4, lines 8-10 of Appellant's specification as filed). It is further submitted that the estimated damage does not have to be precise, so long as the estimate is useful to an insurance company, for example, to sort out minor collisions (e.g., fender benders) from mid-level collisions, and those from major collisions (e.g., where the vehicle is considered to be totaled). As explained on page 5 of Appellant's specification as filed, such is useful for insurance companies so that a comparison may be made between the estimated damage and the claim amount (in dollars).

vii) Existence of Working Examples

The Examiner asserts that there are no working examples set forth in Appellant's specification as filed. Appellant respectfully disagrees with the Examiner, and directs the Examiner's (and the Board's) attention to page 4, lines 15-17 of Appellant's specification as filed, which states that "a small delta velocity will correspond to limited vehicle damage and progressively larger delta velocities correspond to progressively more vehicle damage." Appellant submits that such disclosure is a working example. Appellant further submits that the recognition in the field that delta velocity corresponds to vehicle damage and injury severity also renders the foregoing disclosure a working example (see background section of Appellant's specification as filed).

viii) Quantity of Experimentation Needed to Make or Use the Invention Based on the Content of the Disclosure

The Examiner argues that, based on the content of the disclosure, there would be an undue amount of experimentation to estimate the vehicle damage value. Again, Appellant submits that the Examiner is viewing the method defined in Appellant's pending claims as more complex than it needs to be. From Appellant's specification, one is able to utilize delta velocity and vehicle identification information to determine a damage value. The damage value may be easily assigned by one skilled in the art. For instance, one may assign a damage value of 1 in cases where delta velocity is small. In such instances, an insurance company will probably deduce that the collision was nothing more than a fender bender, and a collision investigator

probably would not be needed. In another instance, one may assign a damage value of 10 in cases where delta velocity is large. In these instances, an insurance company will probably deduce that the collision caused significant damage to the vehicle, and a collision investigator will probably be dispatched. Thus, contrary to the Examiner's assertion stated above, Appellant submits that the estimating of the vehicle damage value (as recited at least in claim 2) is relatively straight forward, and does not require an undue amount of experimentation.

In consideration of Appellant's foregoing arguments with respect to all of the Wand factors, Appellant submits that the Examiner has ***not*** established that Appellant's application lacks enablement, at least with regard to claim 2. Such arguments may also be applied to independent claims 1 and 5, and thus it is submitted that the Examiner has not established that Appellant's application lacks enablement with respect to these claims as well. Accordingly, Appellant submits that the instant 35 U.S.C. § 112, first paragraph, rejection of claims 1, 2, and 5 for lack of enablement is erroneously based, and withdrawal of the rejection is respectfully requested.

C. <u>Rejection of claims 1, 2, and 5 under 35 U.S.C. § 112, second paragraph</u>

The Examiner asserts, in the Final Office Action dated August 20, 2009, that claims 1, 2, and 5 omit essential steps. More specifically, the Examiner asserts that the steps detailing how incident velocity is used to determine vehicle damage is missing from the claims.

Appellant herein reiterates all of his arguments presented above in conjunction with the 35 U.S.C. § 112, first paragraph, rejection of claims 1, 2, and 5, and submits that the Examiner is making the method of estimating vehicle damage value far too complicated. The method is actually quite simple (as explained above), whereby the delta velocity and the vehicle identification are used as inputs in a lookup table, from which the vehicle damage value may be retrieved. As stated in Appellant's specification as filed, a small delta velocity corresponds to limited vehicle damage, and progressively larger delta velocities correspond to progressively more vehicle damage (see page 4, lines 15-17). Accordingly, it is submitted that the Examiner's instant rejection is erroneously based, and withdrawal of the same is respectfully requested.

D. Rejection of claim 1 under 35 U.S.C. § 103(a) over Mackey and Lockwood

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mackey in view of Lockwood. The Examiner asserts that Mackey discloses all of the elements of claim 1, except for i) using incident data to automatically estimate vehicle damage, and ii) utilizing the estimated vehicle damage in a vehicle decision process by an insurance service management system. The Examiner relies on Lockwood to supply the foregoing deficiencies of Mackey. The Examiner concludes that the combination of Mackey and Lockwood renders obvious independent claim 1.

In response thereto, Appellant respectfully disagrees with the Examiner that the combination of Mackey and Lockwood renders claim 1 obvious. Claim 1 is directed to a method for estimating vehicle damage. The method includes, in part, "via an estimator ***at the service center***, using the incident data to automatically estimate the vehicle damage" (emphasis added).

As admitted by the Examiner, Mackey does *not* disclose using incident data to automatically estimate vehicle damage.

Lockwood discloses a customer service automation method, which uses, e.g., sensors to detect that a vehicle has been involved in a collision. ***The sensors*** may, in an example, indicate parts of the vehicle that have been damaged (e.g., the front end of the vehicle and the right front quarter panel of the vehicle, as set forth in the Example in column 8, lines 64-66 of Lockwood). Appellant submits that Lockwood does ***not*** disclose that the estimating of the vehicle damage is accomplished via ***an estimator at a service center***.

In the Final Office Action, the Examiner argues that an operation control center is substantially the same as Appellant's service center, and that vehicle sensor data is received in a vehicle distress event and a response plan is generated. Appellant respectfully submits that the Examiner has misread the Lockwood reference. The paragraph set forth at column 3, lines 19-39 of Lockwood provides that detection may occur as a result of a customer-initiated communication indicating the occurrence of a distress event, and such communication may be received by, e.g., a human operator at the control center. Appellant submits that Lockwood does *not* disclose that the control center actually generates a response plan upon receiving the distress communication from the customer. At most, Lockwood discloses that the control center may

have access to a back end customer service environment (column 5, lines 48-62). In an example, the environment (*not* the control center) includes application servers that may be responsible for generating and executing response plans (column 6, lines 56-62).

The Examiner further argues that estimating vehicle damage is a matter of design choice, and submits that Appellant's specification states, in part, that "[i]t will be evident to those skilled in the art that these functions can be implemented instead within the service center represented by the insurance service management subsystem 37 and that the data from the vehicle can be transmitted to the insurance service management subsystem 37 either directly or indirectly by way of service center 30." Based on this disclosure, the Examiner concludes that the estimation need not be done at the service center.

Appellant respectfully disagrees with the Examiner's conclusion stated above, and submits that the Examiner is improperly importing limitations into the claim from Appellant's specification (see, e.g., MPEP § 2111.01(II)). Claim 1 explicitly recites "via an estimator ***at the service center***, using the incident data to automatically estimate the vehicle damage" (emphasis added). As such, the claim has been limited to using the incident data to estimate the vehicle damage ***via an estimator at the service center***. Thus, it is submitted that claim 1 should *not* be interpreted to conclude that the estimation need not be done at the service center (in direct contrast to the explicit recitation of the claim), as the Examiner has improperly done.

Further, Appellant's specification as filed defines the estimated vehicle damage as "a range of actual damage values consistent with the data recorded by the module 40" (page 4, lines 9-10). The data recorded by the module includes the vehicle incident data. The term "value" is generally known as "a numerical quantity measured, assigned, or computed" (see, e.g., http/wordnetweb.princeton.edu/perl/webwn?s=value). Thus, a vehicle damage value refers to a numerical estimate of the vehicle damage sensed by the on-board module. Such vehicle damage value is in sharp contrast to the vehicle damage (the actual, physical damage) sensed by the sensors in Lockwood. As such, it is submitted that Lockwood does *not* teach that the sensors estimate the vehicle damage (applying Appellant's definition of vehicle damage stated in Appellant's specification as filed).

The Examiner argues, however, that the definition of estimated vehicle damage retrieved from Appellant's specification is not explicitly recited in the claims, and thus the term "value" is given its broadest reasonable interpretation. Appellant respectfully disagrees with the Examiner. At the outset, Appellant submits that the term "value" is *not* even recited in claim 1. Thus, the rules of *claim* interpretation for purposes of determining patentability would not apply. Furthermore, Appellant is not aware of any rule that states that terms recited in the *specification* should also be given their broadest reasonable interpretation. Appellant respectfully requests the Examiner to identify the rule to which he is referring.

Additionally, Appellant submits that claims are given their broadest reasonable interpretation that is *consistent with the specification* (see MPEP § 2111). In many cases, a claim term is given its plain meaning *unless the plain meaning is inconsistent with the specification* (MPEP § 2111.01(I)). Since there is no plain meaning for the term "estimated vehicle damage," Appellant submits that the definition of the term "estimated vehicle damage" recited in the specification should be applied when interpreting the claim term. Appellant further submits that there is no rule that states that the definition must also be included in the claim in order for that definition to apply.

Yet further, the Examiner argues that Lockwood discloses many damage values based on the list of sensors provided at column 3, line 56 through column 4, line 61. The Examiner submits that such sensors produce values that define a vehicle incident and trigger an insurance process. Appellant respectfully disagrees with the Examiner, and submits that the Examiner is confusing the term "incident data" with the term "estimated vehicle damage". Appellant directs the Examiner's (and the Board's) attention to claim 1, which recites, "sensing a vehicle incident via an on-board module" and "automatically sending vehicle incident data… to a service center." In other words, the vehicle incident data is obtained *from the sensors*, and such data is then used to estimate vehicle damage (see also page 4, lines 3-6 of Appellant's application as filed). It is submitted that the list of sensors provided at columns 3-4 of Lockwood are used to obtain data (such as incident data). It is further submitted that Lockwood does *not* disclose that such data is thereafter used to estimate vehicle damage (i.e., a range of actual damage values consistent with

the data recorded by the sensors), which may thereafter be utilized in a vehicle insurance decision.

In the Final Office Action, the Examiner further argues that Appellant failed to consider the Mackey reference in his response dated May 4, 2009. The Examiner asserts that one cannot show nonobviousness by attacking the references individually where the rejections are based on combinations of references (citing *In re Keller,* 642 F.2d 413 (CCPA 1981) and *In re Merck & Co.*, 800 F.2d 1091 (Fed. Cir. 1986)). For the reasoning provided hereinbelow, Appellant submits that each of the references were analyzed in order to address the Examiner's obviousness rejection.

At the outset, obviousness is a question of law based on i) the scope and content of the prior art, ii) ***the differences between the prior art and the claims at issue***, iii) the level of ordinary skill in the art, and iv) objective evidence of non-obviousness (*Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966)). An invention may be obvious if it merely combines "familiar elements according to known methods [to] yield predictable results" (*KSR Int. Co. v. Teleflex Inc, et al.*, 127 S. Ct. 1727; 167 L.Ed.2d 705; 2007 U.S. LEXIS 4745; 75 U.S.L.W. 4289; 82 USPQ.2d (BNA) 1385 (2007)).

A basic requirement to establish a case that a claim is *prima facie* obvious is that "***the prior art reference (or references when combined) must teach or suggest all the claim limitations***" (emphasis added; see MPEP § 2143). "In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art" (*In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ.2d 1780, 1783 (Fed. Cir. 1992)). "If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent" (*In re Oetiker,* 977 F.2d 1443, 1445, 24 USPQ.2d 1443, 1444 (Fed. Cir. 1992)).

In light of the precedent cited above, Appellant submits that the combination of the Mackey and Lockwood references must disclose all of the elements of rejected claim 1 to establish a *prima facie* case of obviousness. In order to rebut the Examiner's obviousness rejection, such references were analyzed to determine whether or not the combination of the references does in fact disclose all of the elements of claim 1. The Examiner argues that one

cannot show nonobviousness by attacking the references individually where the rejection is based on a combination of the references. However, as shown above, Appellant submits that such references were ***not*** attacked individually; but rather were each *analyzed* to determine non-obviousness of the **combination** (i.e., that the combination did not disclose all of the elements of claim 1).

For all of the reasons stated above, Appellant submits that the combination of Mackey and Lockwood *fails* to disclose all of the elements of claim 1. As such, it is submitted that Appellant's invention as defined in independent claim 1 is not anticipated, taught, or rendered obvious by Mackey and Lockwood, either alone or in combination, and patentably defines over the art of record.

E. Rejection of claims 2-4 under 35 U.S.C. § 103(a) over Mackey, Lockwood, Madill, and Applicant Admitted Prior Art

In the Final Office Action dated August 20, 2009, claims 2-4 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mackey, Lockwood, Madill, and Applicant Admitted Prior Art. The Examiner asserts that the foregoing combination of references renders obvious independent claim 2, and those claims depending therefrom. Appellant respectfully disagrees with the Examiner's assertion for the reasons stated hereinbelow.

At the outset, Appellant herein reiterates all of the arguments presented above in conjunction with the 35 U.S.C. § 103(a) rejection of claim 1 over the Mackey and Lockwood references. Appellant submits that Lockwood does *not* disclose automatically estimating a vehicle damage value via *an estimator* ***at a service center***.

Additionally, Appellant submits that Lockwood also does *not* disclose that the vehicle collision damage is estimated using delta velocity and ***vehicle identification*** information. At most, Lockwood discloses that the damage is sensed using sensors (e.g., as listed at columns 3 and 4 of Lockwood) that determine that the vehicle has been in a collision. The Examiner argues, however, that such sensors convey many types of vehicle identification information. Appellant respectfully disagrees, and submits that the Examiner is misunderstanding what vehicle identification information is. Applying its plain meaning, vehicle identification

information includes any information that may be used to identify a vehicle (such as, e.g., the VIN number of the vehicle). Appellant submits that such information is generally *not* sensed via a sensor.

The Examiner further argues that Lockwood teaches reserving a rental car that is comparable to the type involved in the loss or referenced in the customer profile (citing column 9, lines 44-46 of Lockwood). The Examiner asserts that such disclosure teaches vehicle identification. Appellant submits, however, that such disclosure does *not* establish that vehicle identification is used in combination with delta velocity to estimate vehicle damage.

Appellant further submits that neither Madill nor the alleged Applicant Admitted Prior Art *fails* to supply any of the foregoing deficiencies of Mackey and Lockwood. Madill discloses a system for assessing the potential for fraud in a business transaction by providing data to a computer system and applying a fraud potential detection model (see abstract of Madill). Appellant submits that Madill does *not* disclose i) estimating a vehicle damage via an estimator at a service center, and ii) estimating the vehicle damage using delta velocity and vehicle identification information.

For all of the reasons stated above, it is submitted that Appellant's invention as defined in independent claim 2, and in those claims depending therefrom, is not anticipated, taught, or rendered obvious by Mackey, Lockwood, Madill, and Applicant Admitted Prior Art, either alone or in combination, and patentably defines over the art of record.

F. Rejection of claim 5 under 35 U.S.C. § 103(a) over Mackey and Lockwood

In the Final Office Action dated August 20, 2009, independent claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Mackey and Lockwood. For all of the reasons stated above in conjunction with the 35 U.S.C. § 103(a) rejection of claim 1, it is submitted that the combination of Mackey and Lockwood also *fails* to render independent claim 5 obvious. More specifically, neither Mackey nor Lockwood discloses an estimator within a service center that uses incident data to automatically estimate a vehicle damage value. For such reasons, it is therefore submitted that Appellant's invention as defined in independent claim 5 is not

anticipated, taught, or rendered obvious by Mackey and Lockwood, either alone or in combination, and patentably defines over the art of record.

G. Rejection of claims 6 and 7 under 35 U.S.C. § 103(a) over Mackey, Lockwood, and Madill

Claims 6 and 7 are rejected under 35 U.S.C. § 103(a) over Mackey, Lockwood, and Madill. For all of the reasons stated above, Appellant submits that the combination of Mackey and Lockwood *fails* to render obvious independent claim 5, from which claims 6 and 7 depend. Appellant further submits that Madill *fails* to supply the deficiencies of Mackey and Lockwood. Since the combination of Mackey, Lockwood, and Madill does *not* render obvious independent claim 5, it is submitted that claims 6 and 7 are patentable at least because of their dependency from claim 5. As such, it is submitted that Appellant's invention as defined in claims 6 and 7 is not anticipated, taught, or rendered obvious by Mackey, Lockwood, and Madill, either alone or in combination, and patentably defines over the art of record.

VIII. CONCLUSION

The Appellant respectfully submits that claims 1-7 as currently pending fully satisfy the requirements of 35 U.S.C. §§ 102, 103 and 112. Accordingly, Appellant respectfully requests that the Board of Patent Appeals and Interferences find for the Appellant and reverse the rejection of: i) claims 1-4 under 35 U.S.C. § 101, ii) claims 1, 2, and 5 under 35 U.S.C. § 112, first paragraph, iii) claims 1, 2, and 5 under 35 U.S.C. § 112, second paragraph, iv) claim 1 under 35 U.S.C. § 102(b), and v) claims 2-7 under 35 U.S.C. § 103(a). In view of the foregoing, favorable consideration and passage to issue of the present application is respectfully requested.

Respectfully submitted,

DIERKER & ASSOCIATES, P.C.

/Julia Church Dierker/

Julia Church Dierker
Attorney for Appellant
Registration No. 33368
(248) 649-9900, ext. 25
juliad@troypatent.com

3331 West Big Beaver Rd., Suite 109
Troy, Michigan 48084-2813

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JCD/AMS

IX. CLAIMS APPENDIX

1. (Previously presented) A method for estimating vehicle damage, comprising the steps of:

sensing a vehicle incident via an on-board module;

automatically sending vehicle incident data, via a transceiver operatively associated with the on-board module, to a service center;

via an estimator at the service center, using the incident data to automatically estimate the vehicle damage; and

utilizing the estimated vehicle damage in a vehicle insurance decision process by an insurance service management system.

2. (Previously presented) A method for estimating vehicle damage, comprising the steps of:

sensing a vehicle incident via a module on-board a vehicle;

obtaining, via the on-board module, an incident delta velocity of the vehicle from the vehicle incident;

sending the incident delta velocity from the on-board module to a service center;

via an estimator at the service center, using the incident delta velocity with vehicle identification information to automatically estimate a vehicle damage value;

receiving, at an insurance service management system, a claim damage estimate from the service center;

comparing, via a processor associated with the insurance service management system, the automatically estimated vehicle damage value to the claim damage estimate; and

in response to the comparison, making an insurance claim-processing related decision.

3. (Original) The method of claim 2, wherein the step of making an insurance claim-processing related decision includes requiring an insurance inspection if the automatically estimated vehicle damage value differs by more than a predetermined amount from the claim damage estimate.

4. (Original) The method of claim 2, wherein the step of making an insurance claim-processing related decision includes omitting an insurance inspection if the automatically estimated vehicle damage value is consistent with the claim damage estimate.

5. (Previously presented) A system for estimating vehicle damage, comprising:

a module sensing an occurrence of a vehicle incident and developing incident data responsive thereto;

an in-vehicle transceiver for automatically sending vehicle incident data to a service center;

an estimator within the service center using the incident data to automatically estimate a vehicle damage value; and

a decision processor providing a business recommendation responsive to the estimated vehicle damage value.

6. (Original) The system of claim 5, wherein the decision processor provides a recommendation to require further verification of a vehicle insurance claim if the vehicle insurance claim is not consistent with the estimated vehicle damage report.

7. (Original) The system of claim 5, wherein the decision processor provides a recommendation to process a vehicle insurance claim without an insurance inspection if the vehicle insurance claim is consistent with the estimated vehicle damage report.

X. EVIDENCE APPENDIX

Exhibit 1*

www.library.thinkquest.org/15433/unit 1/1-3

Exhibit 2*

id.mind.net/~zona/mstm/physics/mechanics/kinematics/EquationsForAcceleratedMotion/Origins/Velocity/Origin.htm

* Exhibits 1 and 2 were previously introduced in the response dated May 4, 2009.

XI. RELATED PROCEEDINGS APPENDIX

None.

1.3 Position and Velocity Equations

Several useful equations describing the relationship between position, velocity, and acceleration may now be introduced.

$$v = v_0 + at$$

This formula is fairly straightforward. Velocity (v) is the sum of initial velocity (v_0) and the product of a constant acceleration (a) and t while accelerating (t). If a person standing still (initial velocity = 0.0 m/s) accelerated at a rate of 0.5 m/s^2 for 2.0 seconds and then stopped accelerating (maintained his velocity), his velocity would be 0.0 m/s + 0.5m/s^2 · 2.0 s, or 1 m/s.

$$x = x_0 + v_0 t + \frac{1}{2}at^2$$

Perhaps this one is not so intuitive. Let's break it apart and examine each term individually. First, position (x) is the sum of initial position (x_0) and two other terms. If you've already traveled from your starting point to some other point x_0, any further traveling you do will be in addition to that original displacement. The second term represents the product of initial velocity (v_0) and time elapsed (t). Take the case in which there is no acceleration. This causes the third term [(1/2)at^2] to drop out. Then we are left with $x = x_0 + v_0 t$, or position is equal to the sum of the initial position and the product of the initial velocity and the time elapsed. For example, a bicyclist traveling at 15 km/h would travel 18 km in 1.2 hours (x = 0.0 + (15 km/h)(1.2 h) = 18 km).

Now, the final case in which this formula is valid: motion involving constant acceleration. Perhaps the most comprehensive way to prove the validity of the third term is by discussing derivatives. As was mentioned earlier, velocity is the first derivative (rate of change) of position, and acceleration is the first derivative of velocity. Therefore, acceleration is the second derivative of position. To obtain the equation $x = x_0 + v_0 t + (1/2)at^2$, we can integrate.

We'll begin with an equation discussed earlier:

$$v = v_0 + at$$

Now, let's integrate back to position:

$$x = \frac{v_0 t^{(0+1)}}{0+1} + \frac{at^{(1+1)}}{1+1} + \text{constant}$$

$$x = v_0 t + \frac{1}{2}at^2 + \text{constant}$$

substituting the initial position for the constant, we get

$$x = x_0 + v_0 t + \frac{1}{2}at^2$$

Origin of the Velocity and Acceleration Equation

Back

Home for Equations

Here we will take a look at the derivation of the following kinematics equation:

$$v_f = v_o + at$$

The above equation solves for the **final velocity** of an object when it is undergoing a **constant acceleration**.

You need to know the **original velocity**, v_o, the **constant acceleration**, a, and the **time period** of the acceleration, t. These values are plugged into the equation, and the calculation results in the final velocity.

Actually, this equation can be thought of as a rearrangement of the **definition of acceleration**. So, we will start with the definition of acceleration which looks like this:

$$a = \frac{\Delta v}{\Delta t}$$

The above would be read:

> Acceleration equals the change in velocity divided by the change in time.

Or:

> Acceleration equals delta velocity divided by delta time.

Now, any **delta** quantity equals the **final value** for the quantity **minus** the **original value** for the quantity.

So, **delta velocity** equals the **final velocity minus** the **original velocity**. That is:

$$\Delta v = v_f - v_o$$

In like manner, **delta time** is the **final time** minus the **original time**.

This **delta time**, though, is simply the **amount of time that passes** while the velocity is changing.

We can symbolize this amount of time with a simple t. That is:

$$\Delta t = \text{time period} = t$$

So, combining these meanings for delta velocity and delta time we get:

$$a = \frac{\Delta v}{\Delta t} = \frac{v_f - v_o}{t}$$

Or, simply stated:

$$a = \frac{v_f - v_o}{t}$$

The rest of this derivation is simple algebra:

$a = \frac{v_f - v_o}{t}$	Start here.

$at = v_f - v_o$	Multiply each side by t.
$v_o + at = v_f$	Add v_o to each side.
$v_f = v_o + at$	Rearrange by switching left and right sides.

We have derived our velocity equation for constant acceleration:

$$v_f = v_o + at$$

Back